

## REMARKS

The Office Action mailed April 16, 2007 has been received and reviewed. This response is filed with a 1 month request for extension of time and required fee. Claims 1-5, and 7-49 are pending. Claims 7, 14, 24-37, 41-45 and 47-49 are withdrawn from consideration. Claims 1-5, 8-13, 15, 17-20, 22, 38-40 and 46 stand rejected. Claims 1, 7, 9, 14-23 and 46 have been amended herein. Claims 24-37 and 40-45 and 47-49 are canceled herein. All amendments and cancellations are made without prejudice or disclaimer. No new matter is added. Reconsideration is respectfully requested.

### 35 U.S.C. §112

Claims 1-5, 8-13, 15, 17-20, 22, 38-40 and 46 stand rejected under 35 U.S.C. §112, first paragraph, as allegedly containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. Claim 40 has been canceled, thus the rejection is moot as to this claim. Applicants respectfully traverse the rejection.

Specifically, it was asserted that applicants failed to sufficiently describe the genus "YscF protein." The specification defined "YscF" as "the YscF protein originating from any of *Y. pestis*, *Y. pseudotuberculosis*, *Y. enterocolitica* unless otherwise specified. The YscF proteins of *Y. pestis* and *Y. enterocolitica* include substantially similar sequences as indicated in the alignment of FIG. 1. Further, since many proteins of the type III secretion complex of both *Y. pestis* and *Y. pseudotuberculosis* are substantially similar, YscF from *Y. pestis* and *Y. pseudotuberculosis* are considered to be substantially similar." (Specification, page 9, paragraph [0032]). The specification in paragraphs [0033]-[0037] further details the distinguishing attributes shared by members of the genus. FIG. 1 further provided a sequence alignment of peptide sequences of the YscF protein from various *Yersinia* bacteria. Accordingly, one of skill in the art would reasonably conclude that the disclosure provides a representative number of species to describe the genus.

However, in an effort to expedite prosecution, independent claims 1, 9, 15, 20, 22 and 46 have been amended to include the similar element that the YscF protein comprises SEQ ID NO: 19. Accordingly, claims 1-5, 8-13, 15, 17-20, 22, 38-40 and 46 comply with the written

description requirement. Reconsideration and withdrawal of the rejection is thus respectfully requested.

**35 U.S.C. §102(b)**

**A.** Claims 1-3, 5, 8-11, 13, 15, 17-18, 20, 22, 38-40 and 46 stand rejected under 35 U.S.C. §102(b) as being allegedly anticipated by Titball et al. (U.S. Patent 5,985,285). Claim 40 has been canceled, thus the rejection is moot as to this claim. Applicants respectfully traverse the rejection.

Independent claims 1, 9, 15, 20, 22 and 46 have been amended to include similar language that the YscF protein comprises SEQ ID NO: 19. Support for the amendment may be found throughout the as-filed specification including, for example, the Sequence Listing and FIG. 1.

Titball describes subunit vaccines against the F1 capsular antigen and the V antigen (also known as LcrV) of *Y. pestis*. By contrast, each of the independent claims includes YscF protein which is not described, either expressly or inherently, by Titball. As stated herein, the specification describes "YscF" as a YscF protein originating from of *Y. pestis*, *Y. pseudotuberculosis*, *Y. enterocolitica* unless otherwise specified. The YscF proteins of *Y. pestis* and *Y. enterocolitica* include substantially similar sequences as indicated in the alignment of FIG. 1. Further, since many proteins of the type III secretion complex of both *Y. pestis* and *Y. pseudotuberculosis* are substantially similar, YscF from *Y. pestis* and *Y. pseudotuberculosis* are considered to be substantially similar." (Specification, paragraph [0032]). Titball lacks any disclosure of a YscF protein, or a YscF protein comprising SEQ ID NO: 19. Accordingly, Titball cannot anticipate the present claims. Reconsideration and withdrawal of the rejection is requested.

**B.** Claims 1, 8 and 22 stand rejected under 35 U.S.C. §102(b) as being allegedly anticipated by Stewart Jr. et al. (U.S. Patent 6,261,561). Claim 40 has been canceled, thus the rejection is moot as to this claim. Applicants respectfully traverse the rejection.

Independent claims 1, 9, 15, 20 and 22 have been amended to include similar language that the YscF protein comprises SEQ ID NO: 19. Support for the amendment may be found throughout the as-filed specification including, for example, the Sequence Listing and FIG. 1.

Stewart Jr. describes a plasmid pHis-Inv1 encoding a His-tagged *Yersinia pseudotuberculosis*. By contrast, each of the independent claim 1 and 22 includes YscF protein which is not described, either expressly or inherently, by Stewart Jr. As stated herein, the specification describes “YscF” as a YscF protein originating from of *Y. pestis*, *Y. pseudotuberculosis*, *Y. enterocolitica* unless otherwise specified. The YscF proteins of *Y. pestis* and *Y. enterocolitica* include substantially similar sequences as indicated in the alignment of FIG. 1. Further, since many proteins of the type III secretion complex of both *Y. pestis* and *Y. pseudotuberculosis* are substantially similar, YscF from *Y. pestis* and *Y. pseudotuberculosis* are considered to be substantially similar.” (Specification, paragraph [0032]). Stewart Jr. lacks any disclosure of a YscF protein or a YscF protein comprising SEQ ID NO: 19. Accordingly, Stewart Jr. cannot anticipate the present claims. Reconsideration and withdrawal of the rejection is requested.

#### **Allowable Subject Matter**

Claims 16, 21 and 23 were objected to for depending upon a rejected base claim, but were indicated as containing allowable subject matter. Claims 16, 21 and 23 have been amended and placed in independent form. Thus, an indication of the allowability of claims 16, 21 and 23 is respectfully requested.

**Conclusion**

In view of the foregoing amendments and remarks, applicants submit that the claims define patentable subject matter and a notice of allowance is requested. Should questions exist after consideration of the foregoing, the Office is kindly requested to contact the applicants' attorney at the address or telephone number given herein.

Respectfully submitted,



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